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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,648	11/26/2003	Allan R. Wells	89190.070503/DP-308340	8779

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DELPHI TECHNOLOGIES, INC.
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EXAMINER

MARTIN, ANGELA J

ART UNIT PAPER NUMBER

1745

DATE MAILED: 09/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/723,648

Applicant(s)

WELLS ET AL.

Examiner

Angela J. Martin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-9,14,16 and 17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-9,14,16 and 17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

This Office Action is responsive to the Amendment filed on August 31, 2006. The Applicant has amended claims 1 and 14; and canceled claims 2, 10-13, 15.

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8/31/06 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 3, 14, 16, 17 are rejected under 35 U.S.C. 102(e) as being anticipated by Cisar et al., U.S. Pat. No. 6,410,180 B1.

Rejection of claims 1, 3 drawn to a method of forming a fuel cell assembly;
claims 14, 16, 17 drawn to a fuel cell assembly.

Cisar et al., teach a method of forming a fuel cell assembly comprising the steps of forming a plurality of fuel cell sub-assembly modules, each containing at least two bonded fuel cell units, the fuel cell units each including an anode, a cathode, and a membrane electrode assembly; testing the sub-assembly module (Example 18); and joining together the plurality of modules to form the fuel cell assembly (col. 10, lines 66-67 and col. 11, lines 1-2). It teaches modules comprise a plurality of bipolar plate assemblies interspersed with a plurality of membrane electrode assembly elements (col. 12, lines 17-27). It teaches a fuel cell assembly comprising a plurality of fuel cells coupled together to form a plurality of modules, wherein the modules are coupled together to form the fuel cell assembly (col. 10, lines 66-67 and col. 11, lines 1-2), wherein at least one of the fuel cell includes a bipolar plate assembly and a membrane electrode assembly (col. 12, lines 17-27). It teaches at least gasket and gasketing element positioned between each of the plurality of fuel cells (col. 12, lines 28-38).

Thus, the claims are anticipated.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 4-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cisar et al., U.S. Pat. No. 6,410,180 B1, in view of Stanley et al., U.S. Pat. Application Pub. 2004/0053100 A1, or Frank et al., U.S. Pat. Application Pub. 2005/0091838 A1, or Frisch et al., U.S. Pat. No. 6,761,991 B2.

Rejection of claims 4-9 drawn to a method of forming a fuel cell assembly.

Cisar et al., teach a method of forming a fuel cell assembly as described in claim 4 including providing an alignment element (col. 8, lines 45-67; col. 21, lines 10-41), selecting the number of bipolar plate and membrane electrode assembly elements (depending on application of fuel cell), providing an elastomeric gasket (sect. 0010, 0160), providing a compressive force to the stack (col. 21, lines 19-26).

Stanley et al., teach the gasketing element includes a curable liquid rubber material (sect. 0037).

Frank et al., teach curing the elastomeric gasket prior to the method (sect. 0092, 0148). It teaches including a liquid sealant during bipolar plate installation (sect. 0041). It teaches membrane electrode assembly includes gas diffusion layer (sect. 0004, 0089, 0109).

Frisch et al., teach an elastomeric gasket including a liquid sealant (col. 6, lines 30-35).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to insert the teachings of Stanley et al., or Frank et al., or Frisch et al., into the teachings of Cisar et al., because each of the secondary references teach a method of including a curable liquid rubber material for the gasket material which is

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advantageous to the life of the fuel cell. The prior art of record discloses that curing of a liquid sealant as the gasket helps "to prevent leakage of gases and liquids required for operation of the individual fuel cells" (Frisch et al.). In addition, the seal "is robust and can accommodate variations in tolerances and dimensions, and...can be bonded, where possible, to individual elements of the fuel cell assembly. This avoids the difficulty, labor intensive cost and complexity of manually assembling many individual gaskets into complex groove shapes" (Frank et al.).

Response to Arguments

6. Applicant's arguments with respect to above claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Wang et al., U.S. 2003/0076110 A1, teach a fuel cell resistance test system. Jankowski et al., U.S. Pat. No. 6,638,654 B2, teach a MEMS-based fuel cell. Knights et al., U.S. Pat. No. 6,492,043 B1, teach a method of detecting fluid leaks in a fuel cell assembly.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angela J. Martin whose telephone number is 571-272-1288. The examiner can normally be reached on Monday-Friday from 9:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



AJM